

MASK DATA PREPARATION

ABSTRACT

5 **[0056]** The manufacturing of integrated circuits relies on the use of optical
proximity correction (OPC) to correct the printing of the features on the wafer. The data
is subsequently fractured to accommodate the format of existing mask writer. The
complexity of the correction after OPC can create some issues for vector-scan e-beam
10 mask writing tools as very small slivers are created when the data is converted to the
mask write tool format. Moreover the number of shapes created after fracturing is quite
large and are not related to some important characteristics of the layout like for example
critical areas. A new technique is proposed where the order of the OPC and fracturing
steps is reversed. The fracturing step is done first in order to guarantee that no slivers are
15 created and that the number of shapes is minimized. The shapes created can also follow
the edges of critical zones so that critical and non-critical edges can be differentiated
during the subsequent OPC step.